

IUBMB Enzyme Nomenclature

EC 3.4.23.1

Common name: pepsin A

Reaction: Preferential cleavage: hydrophobic, preferably aromatic, residues in P1 and P1' positions. Cleaves Phe¹ + Val, Gln⁴ + His, Glu¹³ + Ala, Ala¹⁴ + Leu, Leu¹⁵ + Tyr, Tyr¹⁶ + Leu, Gly²³ + Phe, Phe²⁴ + Phe and Phe²⁵ + Tyr bonds in the B chain of insulin

Other names: pepsin; lactated pepsin; pepsin fortior; fundus-pepsin; elixir lactate of pepsin; P I; lactated pepsin elixir; P II; pepsin R; pepsin D

Comments: The predominant endopeptidase in the gastric juice of vertebrates, formed from pepsinogen A by limited proteolysis. Human pepsin A occurs in five molecular forms. Pig pepsin D [1,2] is unphosphorylated pepsin A. Type example of peptidase family A1. Formerly EC 3.4.4.1

Links to other databases: [BRENDA](#), [EXPASY](#), [GTD](#), [MEROPS](#), CAS registry number: 9001-75-6

References:

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7. Pohl, J. and Dunn, B.M. Secondary enzyme-substrate interactions: kinetic evidence for ionic interactions between substrate side chains and the pepsin active site. *Biochemistry* 27 (1988) 4827-4834. [Medline UI: [89000686](#)]

[EC 3.4.23.1 created 1961 as EC 3.4.4.1, transferred 1972 to EC 3.4.23.1, modified 1986, modified 1989]

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